

Mineral Industry Surveys

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COBALT IN NOVEMBER 2004

U.S. cobalt consumption during January through November 2004 was slightly higher than that consumed during the first 11 months of 2003, according to the U.S. Geological Survey.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 5% higher during January through October 2004 than that of imports during the same period in 2003. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was basically the same during January through October 2004 as that of exports during the same period in 2003. Trade data for November 2004 will be available in a subsequent issue.

Price

Prices for electrolytic cobalt, in dollars per pound from Platts Metals Week, are listed below.

<u>Date</u>	<u>Price range</u>
December 22	18.75-19.50
December 29	18.75-19.50
January 6	19.25-19.50
January 13	19.25-19.75

<u>Month</u>	<u>Average price</u>
December	18.60

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Metal ²	Oxide and other chemical compounds ³	Scrap	Total
2003:				
November	240	154	167	561
December	216	155	167	538
January-November ^r	2,540	1,780	1,840	6,160
January-December ⁴	2,750	1,930	2,010	6,700
Year ⁵	3,570	1,940	2,140	7,640
2004:				
January	246	219	172	636
February	254	178	158	590
March	212	165	175	552
April	222	169	169	561
May	220	156	172	547
June	223	179	171	573
July	245	155	162	562
August	234	161	162	557
September	232	163	162	558
October	304	154	162	620
November	257	159	162	578
January-November	2,650	1,860	1,830	6,340

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes metal powder.

³Data may include other cobalt materials.

⁴Data based on monthly reports.

⁵Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE¹

(Metric tons, contained cobalt)

End use	2003			2004	
	January-November	January-December ²	Year ³	November	January November ⁴
Steel	395 ^r	431	565	38	405
Superalloys	2,790 ^r	3,030	3,400	266	2,830
Magnetic alloys	303 ^r	330	339	29	315
Other alloys ⁵	W	W	632	W	W
Cemented carbides ⁶	606 ^r	662	662	59	642
Chemical and ceramic uses ⁷	1,820 ^r	1,970	1,980	163	1,900
Miscellaneous and unspecified	250	271	63	23	248
Total	6,160 ^r	6,700	7,640	578	6,340

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on monthly reports.

³Includes annual reports.

⁴May include revisions to prior months.

⁵Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁶Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁷Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Industry ²				U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap	Total	
2003:					
November	324	195	104	623	4,640
December ⁶	342	194	104	641	4,290
Year ⁷	380	214	105	699	4,290
2004:					
January	358	204	104	666	3,900
February	325	193	104	622	3,410
March	363	218	104	685	3,120
April	338	207	104	650	2,980
May	338	202	104	644	2,860
June	334	202	104	640	2,800
July	343	189	104	636	2,740
August	329	201	104	634	2,730
September	332	196	104	631	2,700
October	308	217	104	629	2,700
November	324	216	104	644	2,700

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Stocks reported by cobalt processors and consumers.

³Includes metal powder.

⁴Data may include other cobalt materials.

⁵Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

⁶Data based on monthly reports.

⁷Includes annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5,6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2003:								
October	526,000	\$11,100,000	100,000	\$1,660,000	152,000	\$1,060,000	644,000	6,660,000
November	553,000	12,300,000	104,000	1,720,000	77,900	488,000	651,000	7,310,000
December	632,000	16,300,000	131,000	2,540,000	121,000	996,000	770,000	8,080,000
January-October	5,520,000	106,000,000	1,130,000	18,800,000	1,150,000	6,860,000	6,660,000	XX
January-December	6,700,000	135,000,000	1,370,000	23,000,000	1,350,000	8,350,000	8,080,000	XX
2004:								
January	525,000	17,100,000	131,000	2,710,000	172,000	1,620,000	677,000	677,000
February	862,000	25,400,000	139,000	3,940,000	178,000	2,380,000	1,020,000	1,700,000
March	680,000	29,900,000	126,000	4,290,000	119,000	1,030,000	804,000	2,500,000
April	591,000	28,000,000	81,100	2,630,000	130,000	1,910,000	690,000	3,190,000
May	404,000	20,300,000	40,100	1,760,000	38,900	613,000	446,000	3,640,000
June	609,000	30,600,000	148,000	6,170,000	158,000	2,240,000	763,000	4,400,000
July	458,000	18,700,000	117,000	4,790,000	182,000	2,210,000	599,000	5,000,000
August	371,000	20,100,000	102,000	3,960,000	124,000	1,860,000	483,000	5,480,000
September	666,000	32,600,000	101,000	3,770,000	196,000	2,430,000	799,000	6,280,000
October:								
Australia	40,900	2,010,000	--	--	--	--	40,900	329,000
Belgium	55,400	1,190,000	43,700	1,680,000	--	--	86,900	871,000
Brazil	--	--	--	--	--	--	--	6,360
Bulgaria	--	--	--	--	--	--	--	3,450
Canada	76,100	3,740,000	1,200	45,400	--	--	76,900	970,000
China	3,000	150,000	7,100	237,000	68,000	676,000	25,500	537,000
Colombia	--	--	--	--	--	--	--	694
Congo (Kinshasa)	--	--	--	--	--	--	--	544
Finland	30,800	1,820,000	33,800	1,220,000	66,300	1,130,000	77,100	722,000
France	1,170	82,400	1,380	70,300	--	--	2,160	68,800
Germany	--	--	--	--	--	--	--	34,700
India	--	--	--	--	267	6,000	123	31,800
Italy	--	--	600	26,200	--	--	432	819
Japan	16,900	1,040,000	--	--	--	--	16,900	148,000
Korea, Republic of	20,600	397,000	--	--	--	--	20,600	36,600
Mexico	--	--	--	--	--	--	--	629
Netherlands	--	--	--	--	--	--	--	14
Norway	128,000	6,290,000	--	--	--	--	128,000	1,160,000
Philippines	--	--	--	--	9,070	236,000	4,170	22,400
Russia	148,000	7,050,000	--	--	--	--	148,000	1,260,000
South Africa	500	24,700	--	--	--	--	500	109,000
Spain	--	--	--	--	--	--	--	1,120
Sweden	--	--	--	--	--	--	--	4,700
Switzerland	--	--	--	--	--	--	--	4,700
Taiwan	--	--	1,000	44,500	--	--	720	29,900
Uganda	30,500	1,420,000	--	--	--	--	30,500	30,500
United Kingdom	48	6,730	34,800	1,220,000	2,360	48,800	25,900	174,000
Zambia	46,500	2,280,000	--	--	--	--	46,500	453,000
Total	598,000	27,500,000	124,000	4,550,000	146,000	2,090,000	731,000	7,010,000
January-October	5,760,000	250,000,000	1,110,000	38,600,000	1,440,000	18,400,000	7,010,000	XX

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY ¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Quantity	Value ²	Quantity	Value ²	Quantity	Value ²
2003:						
October	8,170	\$84,200	47,900	\$324,000	11,300	\$810,000
November	2,870	83,200	68,700	479,000	11,300	646,000
December	2,140	66,400	53,400	432,000	13,100	1,010,000
January-October	24,000	567,000	360,000	3,060,000	143,000	9,050,000
January-December	29,000	717,000	482,000	3,970,000	167,000	10,700,000
2004:						
January	2,250	100,000	48,900	614,000	11,400	807,000
February	4,450	118,000	152,000	1,500,000	20,000	856,000
March	6,630	363,000	102,000	1,030,000	20,500	1,290,000
April	13,300	548,000	123,000	1,190,000	10,400	843,000
May	9,330	299,000	78,000	514,000	15,000	1,020,000
June	3,330	163,000	111,000	1,510,000	15,700	1,170,000
July	14,100	687,000	57,400	955,000	20,400	1,430,000
August	949	62,800	118,000	1,380,000	9,380	858,000
September	7,310	106,000	39,400	411,000	29,500	1,760,000
October:						
Belgium	1,410	51,300	--	--	--	--
Canada	1,250	27,500	5,330	59,600	1,390	275,000
France	--	--	1,950	27,800	484	70,500
Germany	--	--	335	11,100	2	11,500
India	--	--	16,200	57,800	--	--
Ireland	--	--	5,160	73,000	--	--
Japan	2,900	219,000	4,400	70,900	567	15,600
South Africa	100	18,000	--	--	--	--
Switzerland	--	--	--	--	1	8,680
Tunisia	--	--	3,080	57,500	--	--
United Kingdom	42	2,070	18,900	222,000	8,870	475,000
Total	5,710	318,000	55,400	579,000	11,300	856,000
January-October	67,300	2,760,000	885,000	9,680,000	164,000	10,900,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS¹

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5,6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2003:								
October	184,000	\$2,890,000	9,310	\$166,000	118,000	\$603,000	219,000	2,180,000
November	137,000	3,650,000	54,500	1,010,000	70,600	447,000	193,000	2,370,000
December	306,000	6,820,000	29,500	778,000	46,200	259,000	338,000	2,710,000
January-October	1,850,000	38,100,000	291,000	4,320,000	499,000	2,660,000	2,180,000	XX
January-December	2,290,000	48,600,000	375,000	6,110,000	615,000	3,370,000	2,710,000	XX
2004:								
January	183,000	4,730,000	36,600	1,430,000	75,500	458,000	228,000	228,000
February	214,000	9,000,000	80,500	3,750,000	65,800	761,000	288,000	516,000
March	232,000	9,740,000	11,400	359,000	78,700	708,000	260,000	776,000
April	154,000	6,530,000	14,600	531,000	82,700	867,000	185,000	960,000
May	205,000	8,000,000	62,000	3,130,000	14,600	166,000	254,000	1,210,000
June	134,000	5,520,000	11,300	440,000	17,700	215,000	147,000	1,360,000
July	203,000	8,580,000	15,400	527,000	41,700	480,000	224,000	1,580,000
August	289,000	7,150,000	41,100	2,060,000	66,200	683,000	334,000	1,920,000
September	118,000	5,300,000	2,450	66,300	29,100	270,000	127,000	2,050,000
October	127,000	4,700,000	20,100	671,000	12,700	136,000	145,000	2,190,000
January-October	1,860,000	69,300,000	295,000	13,000,000	485,000	4,740,000	2,190,000	XX

XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

³Cobalt acetates and cobalt chlorides.

⁴Free alongside ship (f.a.s.) value.

⁵Estimated from gross weights.

⁶Year to date may include revisions to prior months.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,
AND CONCENTRATES¹

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value ²	Quantity	Value ²
2003:				
October	116,000	\$3,150,000	74,400	\$979,000
November	97,000	2,440,000	29,000	559,000
December	83,300	2,470,000	76,000	1,990,000
January-October	825,000	26,400,000	512,000	3,020,000
January-December	1,010,000	31,300,000	617,000	5,560,000
2004:				
January	50,900	2,400,000	126,000	4,320,000
February	94,600	3,680,000	295,000	3,290,000
March	77,000	3,840,000	123,000	6,140,000
April	78,100	3,300,000	110,000	1,600,000
May	129,000	4,920,000	103,000	2,250,000
June	113,000	3,610,000	22,700	1,190,000
July	89,600	3,520,000	14,100	709,000
August	135,000	4,480,000	47,000	568,000
September	69,000	3,720,000	2,500	96,800
October	107,000	5,210,000	12,700	134,000
January-October	942,000	38,700,000	857,000	20,300,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Free alongside ship (f.a.s.) value.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.